

REMARKS

Claims 1-16 are pending in the present application. Claims 1-16 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent Application Publication No. 2002/0065635 (Lei, et al.) in view of Kesavadas, et al., "Interactive Virtual Factory for Shop Floor Design using Cellular Manufacturing Concepts", www.vrlab.buffalo.edu/project/vfact/vsmm99.htm, and in view of Jayaram, et al., "Virtual Assembly Using Virtual reality Techniques", Computer-Aided Design, Vol. 29, No. 8, pg. 575-84, 1997.

Applicant respectfully traverses these rejections.

Applicant urges that independent claims 1, 13, and 15 are not obvious over Lei in view of Kesavadas and Jayaram for at least the reasons presented herein below.

At the very least, Lei does not disclose or suggest a system and method for room planning and design that recites, e.g., "a user interface comprising . . . a workspace comprising a physical model of said physical room space", as essentially recited in claims 1, 13, and 15.

Lei discloses a virtual reality room in which the physical attributes of a room have been programmed into a computer program with a graphical user interface that allows a user to determine a configuration of the room. The section of Lei at paragraph [0036] cited in the Action as disclosing a "a workspace comprising a physical model of said physical room space" instead discloses a

computer program with 2-D or 3-D modeling software and a graphical user interface that provides an interactive environment for modeling a virtual room. Lei's computer program creates a virtual model of a physical room, wherein the physical room is represented in software according to parameters input into the computer system. A virtual model of a physical room is not a physical model of the physical room. A non-limiting example of a physical model is presented in Applicant's FIGS. 3a and 3b that includes a surface that could be a flat table surface with an optional visible grid coordinate system. There is no disclosure in paragraph [0036] or anywhere else in Lei of "a physical model of said physical room space", nor does a virtual model suggest a physical model.

The Action cited Kesavadas as disclosing "physical marker objects substantially scaled to said workspace for manual placement and orientation of said markers objects in said workspace", as essentially recited in claims 1, 13, and 15. However, at the very least, Kesavadas does not disclose or suggest this limitation.

Kesavadas discloses a virtual environment system for designing and modeling a factory. The system of Kesavadas includes hardware devices such as a head-mounted display and instrumented gloves. The Examiner specifically referred to Figure 5 as disclosing physical marker objects. However, Figure 5 depicts the output of a factory cell formation process, a process for visually representing a factory. This figure depicts three groups of machines identified by the cell formation algorithm, which are used to create a visual representation of a

factory to be displayed in a display device such as the head mounted display. Thus, the three groups of machines depicted in Figure 5 are virtual objects, not physical marker objects. There is no disclosure or suggestion in Figure 5 of "physical marker objects substantially scaled to said workspace for manual placement and orientation of said markers objects in said workspace", as recited in claims 1, 13 and 15. Furthermore, hardware devices such as a head-mounted display and instrumented gloves do not teach or suggest "physical marker objects substantially scaled to said workspace for manual placement and orientation of said markers objects in said workspace", as recited in claims 1, 13 and 15. In addition, Kesavadas does not disclose or suggest "a workspace comprising a physical model of said physical room space", and thus Kesavadas does not rectify the deficiencies of Lei.

The Action cited Jayaram as disclosing "one or more detectors for detecting information regarding the positioning of said marker objects in said workspace and transmitting said information to a visualization module; . . .", as essentially recited in claims 1, 13, and 15. However, at the very least, Jayaram does not disclose or suggest this limitation.

Jayaram discloses the use of virtual reality system in computed aided design. The section of Jayaram cited by the Examiner, the second paragraph under the 'Virtual Reality' heading, provides a general definition of a virtual reality system as an environment that is computer generated. This paragraph also discloses the use of video cameras and hardware augmented immersive systems.

However, the paragraph discloses no details of a hardware augmented immersive system, and thus this paragraph does not suggest or disclose "detectors for detecting information regarding the positioning of said marker objects in said workspace", as recited in claims 1, 13, and 15. Furthermore, Jayaram does not disclose or suggest "a workspace comprising a physical model of said physical room space", and thus Jayaram also does not rectify the deficiencies of Lei.

In addition, the piecemeal combining of Lei, Kesavadas, and Jayaram to suggest the invention of claims 1, 13, and 15 is based on improper hindsight gained from Applicant's disclosure.

For the reasons presented above, Applicant urges that the combination of Lei, Kesavadas and Jayaram does not disclose or suggest all of the limitations of claims 1, 13, and 15. Thus, Applicant urges that a *prima facie* case of obviousness of claims 1, 13 and 15 over Lei in view of Kesavadas and Jayaram cannot be maintained. Reconsideration and withdrawal of these section 103 rejections are respectfully requested.

Claims 2-12 depend from claim 1 and are thus patentable for at least the same reasons as claim 1. Claims 14 and 16 depend from claims 13 and 15, respectively, and are thus patentable for at least the same reasons as claims 13 and 15. Reconsideration and withdrawal of these rejections are respectfully requested.

CONCLUSION

Applicant urges that claims 1-16 are in condition for allowance for at least the reasons stated. Early and favorable action on this case is respectfully requested.

Respectfully submitted,

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